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Policy briefing

Mitigating the environmental impact of cattle and sheep: animal genetics and farmers' readiness for uptake

Dr Ann Bruce

Sheep and beef farmers around the UK were interviewed to find out if they would adopt a range of technologies to reduce methane emissions.* Farmers worked in a range of different environments, some of them very challenging. They talked about a production system that worked for them, in their particular environment and reflecting their particular values. Factors within the system can act as major drivers or barriers to activity. Many perceived that opportunities to do other things than produce livestock in many upland areas of the UK are limited by topography (i.e. steep slopes) and weather.

Beef and sheep farmers' attitudes to methane emissions

Farmers interviewed found it difficult to accept the assertion that methane produced by cattle and sheep is a major contributor to global warming. They are therefore unlikely to be receptive to messages exhorting reductions in methane.

- Figures quoted for methane emissions, particularly from grass fed animals, were not found to be credible.
- The science behind the sources and sinks of carbon and methane are thought to be in their infancy and therefore calculations of carbon footprints made too many assumptions, ignored too many factors and were likely to be unreliable at present.
- Farmers felt ruminant livestock have an appropriate place in the world, and have had so throughout history.
- Unfair focus was seen to be placed on ruminant methane emissions and not enough emphasis on transport throughout the food chain and on other human activities.
- They argued there is no perceived



economic benefit from reducing methane emissions.

Use of technologies to reduce methane

Farmers interviewed responded in broadly four different ways to using potential technologies to reduce methane output.

- Specialist beef producers (and to a lesser extent sheep producers) who adopted a technical approach to production were already using some

technologies (such as breeding values) and were amenable to others (changes in feeding, rumen vaccination, etc.) – but largely on the basis of improved production efficiency.

- Organic farmers and conventional farmers selling direct to consumers often perceived a conflict between technological measures to reduce methane emissions and their customers' requirements for 'natural' food. They preferred a whole farm approach to carbon with more emphasis on grassland and particularly soil management, as well as the role of trees.

- Farmers in some agri-environment schemes felt unable to change either feeding regimes or grassland management as these were determined by the needs of managing biodiversity.

- Many farmers felt helpless in the face of the methane challenge as they feared technologies could only have a small impact on methane emissions, meaning the only solution is to reduce livestock numbers – which would threaten their livelihoods.

"The honest truth would be that actually it goes straight into my too difficult box."

Hill beef farmer, selling direct to consumers

Opportunities for the sector to manage methane emissions

- Emphasise increasing production efficiency, rather than focus on reducing methane emissions in the first instance.
- Provide evidence of ways to reduce methane emissions in practice.
- Include farm level actions, such as improved grass and soil management and planting trees, manure management, improved fertility and disease management, as well adoption of specific technologies.
- Encourage schemes that allow dairy farmers to produce beef-cross calves from high EBV sires.



- Develop initiatives to secure a coherent value chain for sheep meat production (and to a lesser extent beef value chain).

- Improve integration of different production sectors (e.g. beef and dairy).

- Encourage work placements in different sectors and travel scholarships to inspire farmers to work in novel ways.

Addressing global climate change issues

Several farmers emphasised the need to address climate change issues at a global rather than national level.

"We have I think had bad experiences in this country from unilateral action. We destroyed the British veal industry by unilateral action, we damaged the British

pig industry by unilateral action, and it is absolutely clear to me that if climate change is going to be dealt with it's got to be dealt with at a global level."

Dairy farmer



*Research study details:

42 in-depth interviews were conducted between Sept 2010-March 2011, of which 30 were with farmers and 12 with people working in the broader industry.

Farms were located from the South of England to the North of Scotland and included organic and conventional, upland and lowland, specialist breeders

as well as commercial producers and producers selling liveweight, deadweight and direct to consumers.

Contact Author:

Dr Ann Bruce, Research Fellow, ESRC Innogen Centre, University of Edinburgh, Old Surgeons' Hall, High School Yards, Edinburgh EH1 1LZ t: +44 (0)131 650 9105 e: ann.bruce@ed.ac.uk

web: www.burpingsheep.org or www.genomicsnetwork.ac.uk/innogen

Contact Centre:

Innogen: ESRC Centre for Social and Economic Research on Innovation in Genomics
www.genomicsnetwork.ac.uk/innogen

Innogen at the University of Edinburgh t: +44 (0)131 650 9113 e: Innogen@genomicsnetwork.ac.uk
Innogen at the Open University t: +44 (0)1908 654 782 e: Innogen@open.ac.uk

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